REMARKS

Claims 1-7 are pending. Support for the amendments to claims 1 and 7 is at page 17, lines 13-16.

Claims 1-7 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,183,789 (Boyle) in view of U.S. Patent No. 5,883,031 (Innes) on the ground that it would have been obvious to use a catalyst with zeolite L disclosed in Innes in the process disclosed in Boyle and thereby arrive at Applicant's invention. This rejection should be withdrawn because Innes and Boyle, alone or in combination, do not teach or suggest a process for regenerating catalyst comprising zeolite L that comprises contacting the catalyst with ozone at regeneration conditions and in the absence of a halogen-containing compound that can be oxidized by ozone at the regeneration conditions.

As amended, claim 1 claims a process for regenerating a hydrocarbon conversion catalyst comprising zeolite L, where the process comprises contacting the catalyst with ozone at regeneration conditions and absent a halogen-containing compound oxidizable by ozone at the regeneration conditions.

Boyle describes a process for regenerating reforming catalysts with ozone. While the catalysts for Boyle's process may have a support containing a zeolite, they must contain halogen. "The catalyst employed in accordance with this invention is necessarily constituted of composite particles which contain ... a halide component ..." Col. 4, lines 39-44. The required halogen can be introduced into the catalyst "by any method at any time", including during catalyst preparation, during reforming operations, and during regeneration. Col. 5, lines 31-50, and col. 7, lines 37-40.

Innes describes a process for regenerating reforming catalysts with oxygen, not ozone. Also, Innes does not teach or suggest that any of the catalysts it describes contain halogen. Col. 1, lines 20-22; col. 4, line 64 to col. 7, line 50; col. 11, lines 29-31; col. 17, lines 21-24; and col. 19, line 8. The typical composition of zeolite L does not contain halogen. Col. 5, line 65 to col. 6, line 12. While Innes teaches impregnating platinum on zeolites using aqueous solutions of tetrammineplatinum(II) nitrate, tetrammineplatinum(II) chloride or diammineplatinum, there is no teaching or suggestion that any residual halogen remains at the end of catalyst preparation. Col. 7, lines 27-31. Indeed, Innes teaches away from using halogen on catalyst, since one of Innes's primary objectives is to regenerate catalyst halogen-free. Col. 4, lines 19-29; col. 9, lines 20-26; col. 16, lines 24-28; col. 19, lines 5-8. See also the abstract and claims 1(a), 2(a), 3(a), and 21(a).

Boyle in combination with Innes does not teach or suggest a regeneration process comprising contacting catalyst containing zeolite L with ozone in the absence of a halogen-containing compound that can be oxidized by ozone at the regeneration conditions because the process that Boyle teaches must be used on halogen-containing catalysts.

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Although the Innes catalysts are regenerated halogen-free, Innes does not teach or suggest regenerating any catalysts using ozone (O_3) since a person of ordinary skill in the art would not interpret Innes's term "oxygen" to mean that Innes was teaching regeneration using ozone. First, although Innes uses the term "oxygen" in many instances, Innes never uses the term "ozone." Second, at column 8, lines 53-63, Innes teaches that the oxygen is typically derived from air and that with or without an inert gas diluent the oxygen concentration is from 0.1 to 21 mol-% oxygen. Innes then teaches higher levels of oxygen may be used when sources are not limited to the use of air. Third, in Innes's Table 2 under "Regeneration Conditions" for Examples X-XIII (Regn. Nos. 10-13), one of the columns is titled "O_2 Level %" and contains values of 0.5 and 1.0. Fourth, Innes's teachings of oxygen concentrations of 0.5 and 1.0 % in Examples III, VII, XI, XIV, and XV when introducing air with or without oxygen/nitrogen blends for regeneration make sense in context and in light of Innes's Table 2 only if oxygen means O_2 not O_3. Fifth, the "CRC Handbook of Chemistry and Physics," CRC Press, 80th Edition, 1999-2000, states at page 14-3 that earth's atmospheric composition is 20.95% O_2 but doesn't even list ozone as a component even though other components having concentrations down to 1 ppm (for CO) are listed. This handbook is the same handbook cited on page 29, lines 15-17 for its periodic table and is a standard reference book that a person of ordinary skill in the art would use. Finally, it is well known to a person of ordinary skill in the art that oxygen (O_2) is much more common than ozone (O_3). For all of these reasons, it is believed that it would be clear to a person of ordinary skill in the art that Innes does not teach or suggest the use of ozone (O_3).

Accordingly, it is believed that claim 1 meets the requirements of 35 U.S.C. §103(a) and that the rejection of claim 1 under 35 U.S.C. §103(a) as being unpatentable over Boyle in view of Innes should be withdrawn. The rejection of claims 2-6 under 35 U.S.C. §103(a) as being unpatentable over Boyle in view of Innes should be withdrawn for the reasons given in support of claim 1 since they are dependent on claim 1. The rejection of claim 7 under 35 U.S.C. §103(a) as being unpatentable over Boyle in view of Innes should be withdrawn for the reasons given in support of claim 1.

In view of the foregoing remarks, the subject application is now believed to be in a condition for an allowance of all claims and such action is respectfully requested.

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